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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/675,664      | 09/30/2003  | Torsten Niederdrank  | P03,0382            | 5809             |

26574 7590 07/10/2006

SCHIFF HARDIN, LLP  
PATENT DEPARTMENT  
6600 SEARS TOWER  
CHICAGO, IL 60606-6473

EXAMINER

ENSEY, BRIAN

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2615

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/675,664 | <b>Applicant(s)</b><br>NIEDERDRANK, TORSTEN |  |
|                              | <b>Examiner</b><br>Brian Ensey       | <b>Art Unit</b><br>2615                     |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 12-15 and 17 is/are allowed.
- 6) ☒ Claim(s) 6-11 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/1/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6-8, 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sontag in view of Katayanagi et al. U.S. Patent No. 5,732,390 and further in view of Serfaty et al. U.S. Patent No. 6,081,702.

Regarding claim 6, Sontag discloses a hearing device (a signal transmission device for transmission across a barrier such as the skin in an implanted hearing aid, see col. 4, lines 15-18), comprising: a receiving device (18) configured to receive a plurality of values of at least one radio signal (See Sontag Fig. 1 and col. 1, lines 29-33 and col. 1, line 58 to col. 2, line 26). Sontag does not expressly disclose the receiving device comprising a median filter device with which a median value of the plurality of values representing frequencies is determined for noise signal prevention. However, the use of median filters for noise reduction in transmitting and receiving devices is well known in the art and Katayanagi teaches using a median filter in noise reduction utilizing noise level detection (See Katayanagi col. 10, lines 23-43). Additionally, Serfaty discloses the use of median filters for frequency control in a radio device (See Serfaty col. 2, lines 28-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a median filter to capture a mid value and report an accurate level or frequency for noise reduction (See Katayanagi col. 10, lines 23-30 and Serfaty col. 2, lines 28-65).

Regarding claim 7, the combination of Sontag in view of Katayangi in further view of Serfaty further discloses the antenna device comprising a self-exciting oscillation circuit (resonant circuit 14 consisting of capacitor 24 and inductor 22) (See Sontag Fig. 1 and col. 1, lines 29-33 and col. 1, line 58 to col. 2, line 26).

Regarding claim 8, the combination of Sontag in view of Katayangi in further view of Serfaty further discloses the antenna device consists exclusively of an LC oscillation circuit (resonant circuit 14 consisting of capacitor 24 and inductor 22) (See Sontag Fig. 1 and col. 1, lines 29-33 and col. 1, line 58 to col. 2, line 26).

Regarding claim 11, the combination of Sontag in view of Katayangi in further view of Serfaty does not expressly disclose each of the plurality of values is a measure for a period duration of the self-exciting oscillation circuit. However, Katayanagi teaches each of the plurality of values is a measure for a period duration or frames (See col. 10, lines 23-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to measure the signal of oscillation for a set duration to capture a mid value and report an accurate level for noise reduction (See col. 10, lines 23-30).

Regarding claim 16, Sontag discloses a method for noise signal reduction in hearing device (a signal transmission device for transmission across a barrier such as the skin in an implanted hearing aid, see col. 4, lines 15-18) receiving signals, comprising: receiving a plurality of values of at least one radio signal via a hearing device (See Sontag Fig. 1 and col. 1, lines 29-33 and col. 1, line 58 to col. 2, line 26). Sontag does not expressly disclose the receiving method comprising a median filtering of the plurality of values representing frequencito produce a median value for noise signal reduction. However, the use of median filters for noise reduction in transmitting and receiving devices is well known in the art and Katayanagi teaches using a

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median filter in noise reduction (See Katayanagi col. 10, lines 23-43). Additionally, Serfaty discloses the use of median filters for frequency control in a radio device (See Serfaty col. 2, lines 28-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a median filter to capture a mid value and report an accurate level or frequency for noise reduction (See Katayanagi col. 10, lines 23-30 and Serfaty col. 2, lines 28-65).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Sontag in view of Katayanagi and further in view of Serfaty et al. as applied to claim 6 above, and still further in view of Anderson.

Regarding claim 9, the combination of Sontag in view of Katayangi in further view of Serfaty discloses a hearing aid as claimed. The combination of the combination of Sontag in view of Katayangi in further view of Serfaty further discloses a wireless communication link. The combination of Sontag in view of Katayangi does not expressly disclose a half-duplex transmission line is established with the radio device. However, half duplex communication is merely communication which occurs in one direction at a time and Anderson teaches transmission from one device to the other for processing and then back and the need for size reduction and reduced power consumption. It would have been obvious to one of ordinary skill in the art at the time of the invention that half duplex communication is used for reduced power consumption.

Regarding claim 10, the combination of Sontag in view of Katayangi in view of Serfaty in further view of Anderson further discloses a signal transmission is implemented in the long-wave range with the radio device (See Anderson col. 4, lines 26-29).

*Allowable Subject Matter*

Claims 1-5, 12-15 and 17 are allowed.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group **Art Unit 2615**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**


Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, Va. 22313-1450

**Or faxed to:**

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".  
Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Arlington, VA 22314

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**

BKE  
July 3, 2006